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May 6, 2002

Ms. Marlene Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Reply Comments — Notice of Proposed Rulemaking and Order,
Schools and Libraries Universal Service Support Mechanism, FCC 02-8,
CC Docket No. 02-6

Dear Ms. Dortch:

Dell Computer Corporation submits these reply comments in response to the Commission's *Notice of Proposed Rulemaking* in CC Docket No. 02-6.^{1/} Dell's review of the comments filed to date in this proceeding suggests that schools and libraries increasingly are relying on wireless technologies to meet part or all of their connectivity needs. The comments also suggest, however, that the E-Rate Program's existing funding mechanism may have the unintended effect of pressuring schools and libraries to choose wireline instead of wireless technologies — even in cases where a wireless solution would be more economical and efficient — simply because the E-Rate Program is more likely to fund the wireline solution. Accordingly, Dell encourages the Commission to listen to these commenters as it considers how to improve the E-Rate Program, and to make the changes to the program necessary to empower schools and libraries to make technology decisions that truly are in their best interest.

1. Commenters in the E-Rate Proceeding unanimously support the notion that the E-Rate should be technologically neutral.

As Dell emphasized in its comments, technological neutrality has been both a guiding principle of section 254 of the Communications Act and a powerful tool used

^{1/} Notice of Proposed Rulemaking and Order, *Schools and Libraries Universal Service Support Mechanism*, FCC 02-8, CC Docket No. 02-6 (rel. Jan. 25, 2002) ("*E-Rate NPRM*").

by the Commission to allow the market to bring to consumers the solutions that best fit their needs.^{2/} As such, in examining possible revisions to the E-Rate Program, the Commission should do all that it can to ensure that the program remains technologically neutral. The commenters addressing this issue appear to be unanimous in their support for the development of a truly technologically neutral E-Rate Program.^{3/}

2. Comments filed in response to the *E-Rate NPRM* make clear that schools and libraries increasingly are relying on wireless technologies to meet their connectivity needs.

As Dell discussed in its comments, this is a time of rapid innovation in the wireless world, with wireless technologies rapidly advancing on — and in many ways exceeding — the benefits that wireline connectivity traditionally has offered.^{4/} New technological standards, such as Bluetooth and 802.11, in combination with the increased availability of unlicensed spectrum and new and innovative primary applications have made it possible for schools and libraries to rely on wireless systems as their primary link to the Internet. Indeed, Dell’s experience to date with its educational customers demonstrates that — depending on the specific hurdles facing schools and libraries in their efforts to become connected — wireless technologies often serve as a preferred method of last mile connection in situations where wireline networks are too costly to install.

The comments submitted in response to the *E-Rate NPRM* echo Dell’s observations that wireless solutions can and in fact are producing tangible benefits for schools and libraries. For example, the State of Florida Department of Education notes

^{2/} See Dell Comments at 1 (citing Report and Order, *Federal-State Joint Board on Universal Service*, 12 FCC Rcd. 8776, ¶ 49 (1997)).

^{3/} See, e.g., Cellular Telecommunications & Internet Association (CTIA) Comments at 2 (CTIA “supports the Commission’s efforts to ensure that its rules and policies regarding the eligibility of wireless services for support under the schools and libraries mechanism be consistent with the guiding principle of section 254 -- competitive neutrality”). Additionally, the Florida Division of Library and Information Services specifically requests that the FCC make the “purchase of wireless WAN and LAN equipment eligible for discounts.” Florida Division of Library and Information Services Comments at 1 (“The emergence of [wireless] products in the marketplace is the next wave of innovation and the program must support them if technology in libraries and schools is to remain relevant and if the program is to realize its innovation and technology neutrality goals”); see also Michigan Department of Information Technology Comments at 1 (the E-Rate Program “should be competitively neutral (i.e., technology, vendor, and procurement neutral”).

^{4/} See Dell Comments at 2.

that “in many cases, the only means for a school or library to receive higher bandwidth is through wireless products and services.”^{5/} Similarly, the Colorado Department of Education contends that “[w]ireless WAN services have proved to deliver higher speed access at lower costs and with more reliability than many of the traditional telecommunications common carriers.”^{6/} The benefits of a wireless solution are being seen in particular by schools and libraries located in inner cities, as well as remote areas that are not ideal candidates for traditional wired approaches. As the Council of the Great City Schools points out, the “use of wireless service is now commonplace, and allowing [its] eligibility gives flexibility to applicants in finding the most suitable technology for their particular needs.”^{7/} For similar reasons, the State of Alaska, through the Alaska Department of Education and Early Development recognizes that “[w]ireless solutions often are used by rural schools and libraries for whom wireline technology is not an adequate solution and by older schools and libraries with asbestos concerns.”^{8/}

3. Commenters recognize that the current E-Rate funding mechanism is pressuring schools and libraries to make inefficient technology choices.

As Dell explained in its comments, no matter how significant the advantages of wireless technologies, the E-Rate Program’s current funding mechanism typically favors wireline over wireless solutions, despite the many advantages that wireless solutions can bring.^{9/} As a result, schools often are encouraged to choose more expensive (yet subsidized) wireline solutions over more cost-effective wireless alternatives. A significant number of commenters addressing this issue confirm that this is in fact the case. As the Council of Chief State Schools aptly summarizes, the “current [E-Rate] eligibility framework does not result in competitively neutral rules because the rules . . . greatly favor incumbent, wireline providers over other types of service providers such as wireless providers.”^{10/} Similarly, the National Education Association suggests that “[b]roadening the [E-Rate funding] rules accomplishes the goal of technological neutrality, and eliminates the incentive to prefer wireline technology to wireless technology.”^{11/} The New York City Board of Education also argues that “[w]ireless services should be as fully eligible, and as easy to file for, as

^{5/} State of Florida Department of Education Comments at 5-6.

^{6/} Colorado Department of Education Comments at 3.

^{7/} Council of the Great City Schools Comments at 3.

^{8/} State of Alaska Comments at 5.

^{9/} See Dell Comments at 4; *accord E Rate NPRM* at ¶ 21.

^{10/} Council of Chief State Schools Comments at 10.

^{11/} National Education Association Comments at 8.

wired telephone service.”^{12/} In reality, as the following excerpts from comments suggest, the current system has even encouraged schools and libraries to make *poor* technology choices simply because they are more likely to be funded under the E-Rate Program:

The way the E-rate program has evolved, the applicant may choose the lesser of products or services because it is eligible for E-rate funding. Arkansas E-Rate Workgroup Comments at 5.

Wireless WAN services have proven to deliver higher speed access at lower costs and with more reliability than many of the traditional telecommunications common carriers. Schools and libraries should not be constrained to the use of older, out-dated technologies simply because they have a wire attached . . . [F]or the past two years one school district in Colorado has placed bids for telecommunications and Internet services through the Form 470 competitive bidding process and found that quotes from the traditional common carriers offered less service and were two to three times more expensive than the quote from the local wireless provider. Today the district still uses the slower land lines to deliver telecommunications and Internet services because it is difficult to secure funding for internal connections that would be needed to upgrade this wireless WAN. Colorado Department of Education Comments at 3.

[L]easing technological solutions from a common-carrier offers greater assurances that the service will be eligible for discount, regardless if the services offered are the best, most effective or most efficient choices for the applicant. In contrast, developing a wireless solution by leasing similar services from a non-common carrier is virtually guaranteed to NOT offer a discount for the majority of schools unless the services are exclusively for Internet use - a very inefficient use of resources that would require duplicate networks. Illinois State Board of Education Comments at 12.

Developing a wireless solution by purchasing wireless components is virtually guaranteed to NOT offer a discount for the majority of schools. Therefore, leasing wireline equipment through an eligible telecommunications carrier, while potentially more expensive over the longer term, is a solution that is becoming

^{12/} New York City Board of Education Comments at 3. See also American Association of School Administrators (AASA) comments at 3-4 (wireless services should be “eligible if they are providing the functional equivalent of eligible wired telecommunications services for educational purposes”); New York Public Library Comments at 2 (“Wireless services should have the same eligibility as wired services”); North Carolina Department of Cultural Resources Comments at 1 (“Broadening eligibility of wireless technology would be in keeping with ‘competitive neutrality,’ a core principle of the E-Rate discount program”); Seattle Public Library Comments at 1 (“wireless services that provide the same functionality [as wireline services] should be eligible” for support under the E-Rate Program).

more frequently employed because the E-rate program discounts that solution. Innovation is discouraged by the rules because applicants fear denial of funding. Missouri Research and Education Network Comments at 2.

4. The E-Rate funding mechanism should be revised to ensure that schools and libraries receive funding for wireless connectivity solutions.

As Dell and many of the commenters agree, however, there are straightforward steps that the Commission can take to ensure that schools and libraries are able to take advantage of wireless technologies where wireline technologies are unworkable or cost prohibitive. Specifically, the Commission should ensure that the schools and libraries are able to obtain funding to cover the costs of installing wireless LANs and WANs that are used exclusively or primarily for Internet connectivity. In addition, the Commission should revise the funding mechanism in order to increase schools' and libraries' flexibility in structuring their financial arrangements with wireless manufacturers and service providers. Dell believes that the commenters themselves make this point most clearly:

[T]he current Priority 1 and Priority 2 distinction causes most cost-effective wireless solutions to suffer from the same discrimination identified [in connection with the use of WANs] . . . [L]easing wireline services (which inherently include the leasing of facilities owned by the service provider) from a telecommunications carrier, while potentially more expensive over the longer term, is a solution that is becoming more frequently employed because the E-Rate program discounts that solution. Council of Chief State School Officers Comments at 10-12, 24.

[P]urchasing premises-based WAN equipment should be allowed under the Internal Connections category. City of Boston Comments at 2.

Make the purchase of wireless WAN and LAN equipment eligible for discounts. Florida Division of Library and Information Services Comments at 1.

If the Commission included the components necessary for wireless transport in Priority 1 because their use is external to the building, rather than distinguishing what a district buys vs. leases, the competitive nature of the service solution will be greater. Further, for those schools and libraries for which there is no wire solution, they would have a reason to apply for E-rate funds. This would broaden the pool of applicants to include some who have never applied before. Missouri Research and Education Network Comments at 1.

We recommend that the purchase of wireless WAN and LAN equipment be eligible for discounts. North Carolina Department of Cultural Resources Comments at 1.

[T]he FCC [should] consider a modification that allows vendors to install short distance high-speed wireless links to connect buildings, campuses or to run the 'last mile' for Internet Access. Integrity Networking Systems, Inc. Comments at 2.

Once again, Dell welcomes the opportunity to participate in this important proceeding. Dell encourages the Commission to listen to the commenters in their overwhelming endorsement of changes to the E-Rate Program to allow schools and libraries to freely choose connectivity solutions that best suit their specific needs, whether they be based on wireline or wireless technologies.

Respectfully Submitted,

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CERTIFICATE OF SERVICE

I, Daniel McCuaig, hereby certify that on this 6th day of May 2002, copies of the foregoing "Reply Comments of Dell Computer Corporation" were delivered by hand via courier to the persons on the attached list.

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